

Claims

What is claimed is:

1. An applicator for applying a coating substance to an implantable medical device, comprising a nozzle and a temperature controller in thermal communication with the nozzle for adjusting the temperature of the coating substance during the application process.
2. The applicator of Claim 1, wherein the temperature controller circumscribes the nozzle and is position in close proximity to an orifice of the nozzle through which the coating substance is applied.
3. The applicator of Claim 1, wherein the coating substance includes a polymer dissolved in a solvent and optionally a therapeutic substance added thereto.
4. The applicator of Claim 1, wherein the implantable device is a radially expandable stent.
5. An apparatus for applying a composition to a stent, comprising:
 - (a) an applicator for spraying a composition at the stent; and
 - (b) a temperature controller connected to the applicator for adjusting the temperature of the composition to a temperature other than ambient temperature.
6. The apparatus of Claim 5, wherein the applicator comprises a body extending into a nozzle, such that the temperature controller is positioned in close proximity to the nozzle.
7. The apparatus of Claim 5, wherein the applicator is an air-assisted internal or external mixing atomizer.
8. The apparatus of Claim 5, additionally including a temperature modular in communication with the temperature controller for maintaining the temperature of the composition at a constant level during the application of the composition.
9. A method of coating a stent, comprising:
 - (a) positioning a stent at a distance away from a nozzle;

(b) applying a coating substance from the nozzle to the stent; and

(c) adjusting the temperature of the nozzle to adjust the temperature of the coating substance.

10. The method of Claim 9, wherein a temperature controller is in thermal commutation with the nozzle for adjusting the temperature of the nozzle.

11. The method of Claim 9, wherein the coating substance comprises a polymer dissolved in a solvent and optionally a therapeutic substance added thereto.

12. The method of Claim 9, wherein the temperature of the nozzle is adjusted to a temperature of about 35° C to about 40°C.

13. The method of Claim 9, wherein the temperature of the nozzle is adjusted to a temperature above room temperature.

14. The method of Claim 9, additionally including rotating the stent about the longitudinal axis of the stent.

15. The method of Claim 9, wherein the coating substance is applied as atomized droplets.

16. The method of Claim 9, wherein the temperature of the nozzle is adjusted prior to the application of the coating substance.